AUDIONET

EPX

External Power Supply

User's Manual

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1 Preface

The Audionet-Team would like to congratulate you for purchasing the Audionet EPX! Surely you are a satisfied owner of an Audionet device. With the external power supply EPX you have the possibility to provide all connected units a more sophisticated foundation.
Please read this manual before first use to make sure that you are able to use all provided functions of your new unit. In case of occurring questions, please do not hesitate to contact your local Audionet dealer or our factory directly.

1.1 Included

Included you will find the following items:

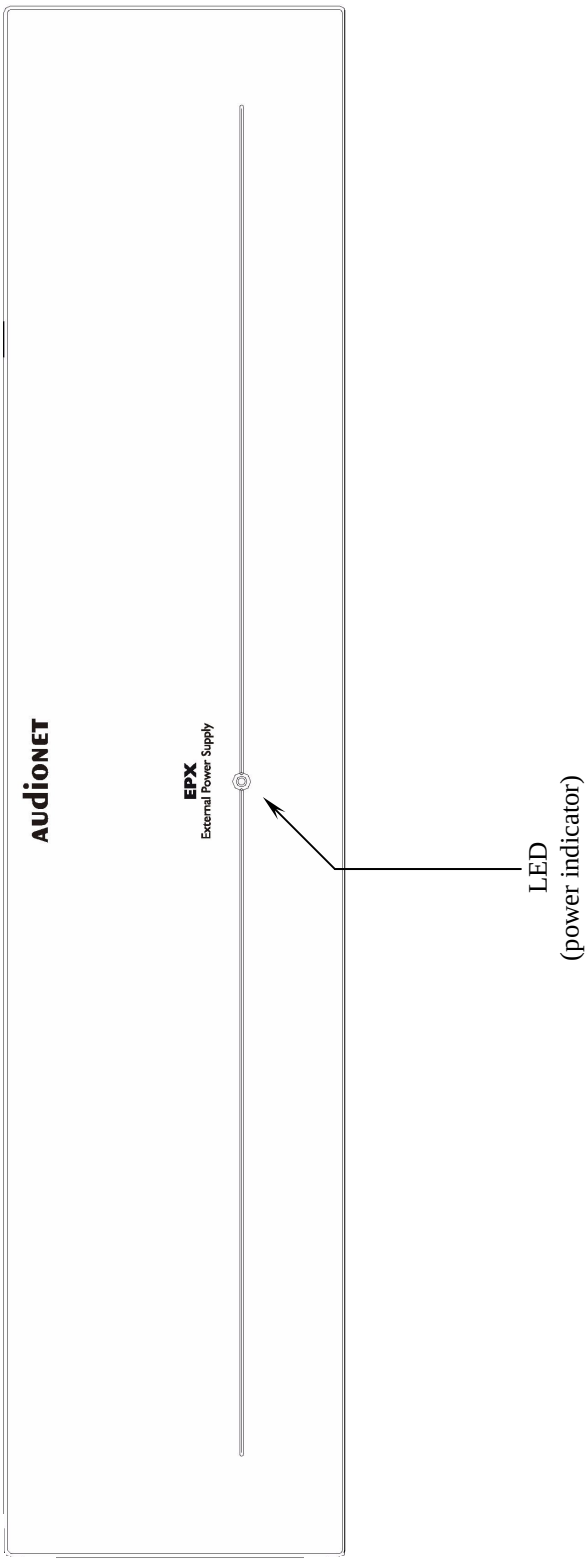
- The Enhanced Power Supply EPX
- The user's manual (that you are currently reading)
- One EPX connection cable
- One standard mains cord

1.2 Transport

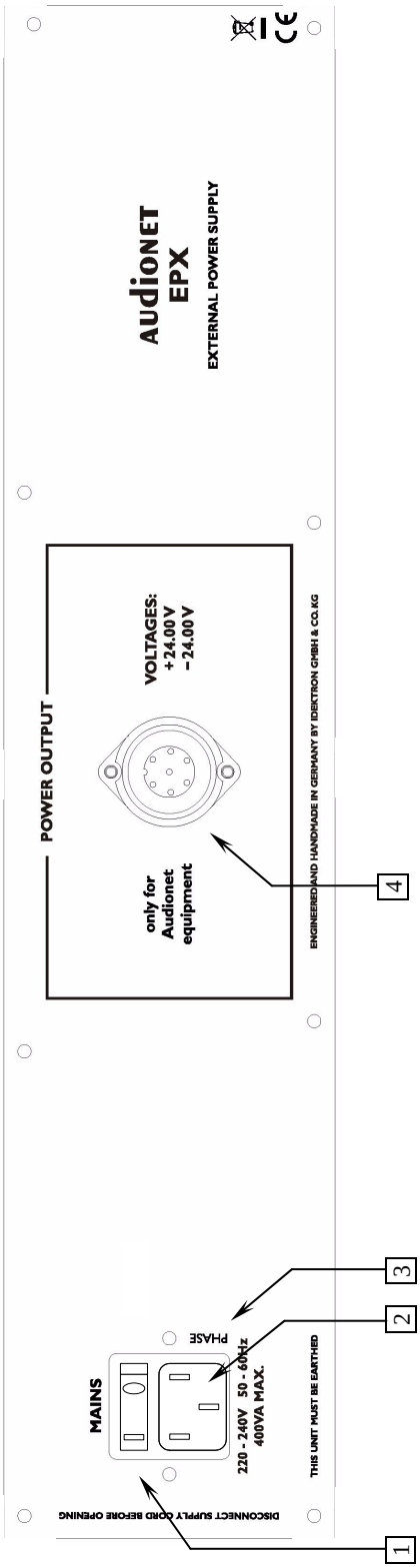
Important

- Please transport the EPX only in the included package.
- Always use the plastic bag to prevent scratches on the casing.
- Please allow the EPX to adapt to the climatic conditions in your listening room before you switch on the unit for the first time after transport.

2 Overview front panel



3 Overview back panel



1 Mains switch

2 Mains input

3 Marking mains phase

4 7-pin connector

4 Installation and connection

Important

- **For connecting the EPX to or removing from the mother unit, the EPX and the mother unit must be switched off to prevent damage from both devices.**

- **Please make sure that all cables are in absolute best conditions! Broken shields or shorted cables could damage both devices.**

4.1 Placement

Important

- Place the EPX right beside or at least 20 cm above/below of the mother unit.
- It is recommended to place the EPX into a high quality rack or onto a stable table.
- Do not expose the unit to direct sunlight.
- Do not cover the ventilation slots.
- Do not place the EPX in close range to heat sources like radiators. Do not place the EPX on top of other units, especially not on top of power amplifiers, pre amplifiers or similar that produce heat. Both units could suffer damage from thermal overload.
- Do not use the unit in places where it is exposed to vibrations.
- Do not place the unit close to loudspeakers or into the corner of a room where it is exposed to high levels of sonic energy, which might reduce the sound quality of the unit.

4.2 Mains connection

The mains input 2 [1] is on the back panel of the EPX. To connect the unit to the mains use the included mains cord respectively the mains cord of your mother unit (see section *'Connecting the mother unit'* on page 7).

If you prefer to use a different power cord make sure that it meets the specifications for your home country.

[1] see numbers in section '*Overview back panel*' on page 5.

Important

- The electrical specifications of your home country must meet the electrical specifications printed onto the back panel.
- The EPX is a Class I unit and must be earthed. Please ensure a stable earth connection. The Phase ('hot' pin) is marked '**PHASE**' on the back panel for the mains input.
- Never pull the mains plug while the EPX is switched on! Before you pull the mains cord off the socket, power down the unit to stand-by mode.

Only in cases of extended absence – like vacations – or if massive trouble on the mains power is to be expected you should switch off the EPX from the mains using the mains switch. To disconnect the unit completely from mains pull the mains plug.

4.3 Connecting the mother unit

For the connection of the mother unit an EPX-cord with 5-pin or 7-pin connector is needed. An overview can be found in the following table.

	EPX -cord with 5-pin connector	EPX -cord with 7-pin connector	
Image of the connector			
Mother unit	DNP, DNA, DNC, PRE 1 G3 VIP, VIP G2, VIP G3 ART, ART V2, ART G2, ART G3	PRE 1, PRE 1 G2 CAT PAM, PAM V2, PAM G2	MAP, MAP V2 MAP 1
Mains connection of the mother unit	Needed	Not needed	Needed

Important

- Do not connect mother devices equipped with 7-pin connectors (except MAP, MAP V2, MAP I) to mains! This would compromise the quality of audio performance. In this case (see table above) only use **one** mains cord to connect the EPX to mains, and no mains cord is needed for the mother device.

5 Usage

5.1 Powering up

First of all, please make sure your EPX is connected correctly to the mother unit and the mains (see section *'Mains connection'* on page 6 and *'Connecting the mother unit'* on page 7).

The EPX is a stand by unit. Please operate the mains switch 1 on the back panel to put the EPX in stand by mode.

Only in cases of extended absence (like vacations) or if massive trouble on the mains power is to be expected (e.g. thunder storms) it is recommended to disconnect the EPX from the mains. To disconnect the EPX from mains completely, you have to pull the mains cord off the mains jack.

Important

- Never pull the mains cord while the EPX or the mother unit is switched on! Before you pull the mains plug, power down the mother unit to stand-by mode and switch off the EPX on the back panel.

5.2 Switching on/off

Please first turn on the mother device by its mains switch on the back panel. Then operate the mains switch on the back panel of the EPX to set it to stand by mode.

The position of mains switch of mother devices that need no additional mains connection (see section *'Connecting the mother unit'* on page 7) is negligible.

Now operate the mother device as usual, all functions are the same. If the mother device is switched on, the LED on the front panel of the EPX reports the polarization of mains phase for a few seconds (see section *'Mains phase detection'* on page 9) before it keeps shining permanently. If you switch off the mother device, the power LED of the EPX turns off.

Note

- For further information on starting up a mother device with 5-pin connector in combination with an EPX please consult the user's manual of the mother device.

5.3 Mains phase detection

The EPX is able to detect the correct polarization of the mains plug. After pressing the power key on the front panel of the mother unit, the speed of the LED flashing indicates the polarization of the mains plug.

- If the polarization is correct, the LED flashes slowly: ⊗___⊗___⊗

If you see the LED flashing rapidly ⊗_⊗_⊗_⊗_⊗ ... please switch off the unit and flip the mains plug. If you now switch on the EPX again, the unit should show the correct mains polarization by a slowly flashing LED.

Note

- If the EPX issues the mains polarization warning or no warning at all for both positions of the mains plug, check the connection to earth of your mains socket and mains cord. **You have to ensure a stable connection to earth for the mains phase detection of the EPX to work correctly!**

6 Protection system

Your Audionet EPX is equipped with a powerful protection system that safeguards the mother device and itself. In case of an error the EPX will show this error state by a special LED flash code. If the EPX LED flashes like this:

⊂x⊃_⊂x⊃_⊂x⊃_⊂x⊃ … (long on, short off)

one of the following errors have occurred:

- Thermal protection: The EPX will power down if its heatsinks overheat.
- Shortcut protection: The EPX will power down if an excessive current is drawn from its outputs over a longer period of time.

In this case you have to power off the EPX at mains power switch at the back panel. Before turning on again the EPX should cool down, and you should check for the cause of error and remove the problem.

7 Technical Information

Your EPX provides the mother unit with ideal operating conditions. The popular usage of accumulators shows the following serious disadvantage:

The output voltage is not short term stable: The internal impedance is 10 times worse than the one of your EPX causing an output ripple voltage 10 times in magnitude at the same load condition.

The output voltage is not long term stable: The output voltage of an accumulator is highly dependent from its state of charge and usage history, typically ranging from 23 V to 28 V. The EPX always provides 24.00 V.

The usage of accumulators is questionable regarding to environmental concerns.

Last not least you are able to listen to your music with high-end quality using the EPX whenever you like not being forced to wait for accumulators being charged.

7.1 Features

- Discrete circuit layout for positive and negative voltage
- Two 200 VA-toroid transformers
- Total capacitance per voltage: 288.000 µF (totally 576.000 µF)
- Custom made Audiograde Capacitors with silk dielectric
- Separate power supply for control and standby purposes
- High precision voltage regulators with discrete MOSFETs
- High precision and low noise reference voltage
- Short-circuit proof and protected against overheating
- Internal wiring with ultralow impedance silver/gold cables
- Mains phase detection

8 Security advice

Important

- Avoid packaging material, especially plastic bags, coming into children's hands!
- Store and operate the unit in a dry room at a reasonable room temperature only!
- Avoid moisture, any liquids, dirt or small objects getting into the unit!
- Set up the unit in a sufficiently ventilated environment!
- Do not cover the unit!
- **Do not open the unit. Unauthorised opening will void warranty!**
- Use dry cloth for cleaning!

9 Technical data

Type	ultra low noise, highly stable and constant power supply for EPS/EPX compatible Audionet units
Power supply	two encapsulated 200 VA toroidal transformers and 576.000 µF capacitance
Circuitry	reference voltage sources for pos. and neg. analog voltages using discrete Audionet voltage regulators (MOS)
Connections	7-pin socket for connecting the mother unit
Output voltage	±24.00 V for analog sections, +5V for digital and control sections
Stability	±0.01 V at 3 A
Noise	-144 dB or 1.5 μV_{eff} for 0 Hz up to 22 kHz
Mains	120 V or 230 V, 50 Hz .. 60 Hz
Power consumption	Standby < 0.5 W, max. 400 W
Dimensions	W: 430 mm H: 110 mm D: 360 mm
Weight	18 kg
Finish	**Front-panel**: aluminium, black anodized, light grey printing aluminium, nature anodized (silver), black printing **LED:** red or blue **Top-cover**: aluminium, black anodized, 4 mm **Side-plates**: aluminium, black anodized, 8 mm **Chassis**: 2 mm sheet-steel, black varnished

Errors and omissions excepted. Specifications and design are subject to changes without prior notice.

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